

Surry 1

2Q/2016 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Mar 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Perform a 10 CFR 50.59 Evaluation for Blocking Ventilation to Main Steam Valve Houses

An NRC-identified finding of very low safety significance and an associated Severity Level IV NCV of 10 CFR 50.59, "Changes, Tests, and Experiments," was identified when the licensee failed to perform and maintain a written evaluation to demonstrate that a procedure change did not require a license amendment. Specifically, the licensee implemented a change to procedure 0-OP-ZZ-021, "Severe Weather Preparation," Revision 12, to allow installation of tarpaulins over the main steam valve house (MSVH) ventilation louvers thereby changing the Updated Final Safety Analysis Report (UFSAR) facility design without maintaining supporting calculations.

The licensee's failure to perform a 10 CFR 50.59 evaluation was a performance deficiency (PD). The inspectors determined that the PD was more than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the change allowed the ventilation of the MSVH to be blocked and the lack of engineering calculations resulted in a condition where there was a reasonable doubt about the operability of the auxiliary feedwater (AFW) pumps for their required mission time. Using Manual Chapter 0609.04, "Initial Characterization of Findings," Table 2, dated June 19, 2012; the finding was determined to adversely affect the Mitigating Systems Cornerstone. The inspectors screened the finding using Inspection Manual Chapter (IMC) 0609, Appendix A, "Significance Determination Process (SDP) for Findings at-Power," dated June 19, 2012, and determined that it screened as Green because the PD did not affect the design or qualification of the AFW system and it did not represent an actual loss of system safety function. Using IMC 0310, "Aspects within the Cross-Cutting Areas," dated December 4, 2014, the inspectors determined that the finding had a cross-cutting aspect in the procedure adherence component of the human performance area, H.8, because the licensee failed to follow processes, procedures and work instructions for the 50.59 applicability review when changing the severe weather preparation procedure.

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Additionally, the failure to perform a 10 CFR 50.59 evaluation was determined to be more-than-minor in accordance with the guidance in the NRC Enforcement Manual for traditional enforcement violations, because the MSVH louvers were actually covered and there was a reasonable likelihood that the lack of MSVH ventilation could affect the operability of the AFW pumps for their required mission time. The failure constitutes a violation of 10 CFR 50.59, which impacts the regulatory process and therefore, was evaluated through the traditional enforcement process. The SDP, which was used to evaluate this performance deficiency, does not specifically consider the impact on the regulatory process. Thus, although related to a common regulatory concern, it is necessary to address both the violation and finding using different processes to correctly reflect both the regulatory importance of the violation and the safety significance of the associated performance deficiency. (Section 1R01)

Inspection Report# : [2016001](#) (*pdf*)

Significance: G Dec 31, 2015

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Charging Pump Service Water Pump Failure Due to Inadequate Preventative Maintenance

A self-revealing Green NCV of Surry TS 6.4.D was identified because the preventative maintenance cleaning of the six inch service water (SW) piping upstream of the SW rotating strainers was deferred with insufficient technical justification. Specifically, the licensee did not follow procedure ER-AA-PRS-1010, "Preventative Maintenance Task Basis & Maintenance Strategy," and provide justification for a differing disposition when they deferred the cleaning of the six inch SW header three times. A lack of maintenance on this piping allowed excessive biofouling and subsequent blockage of the SW rotating strainer to occur. This was discovered when the Unit 1 and 2 "A" charging service water (CHSW) pumps experienced a zero flow rate during performance of 0-OPT-VS-001, "Control Room Air Conditioning System Pump and Valve Inservice Testing," Revision 43, on July 24, 2015. This issue was documented in the licensee's CAP as CR 1003878.

The inspectors concluded that the failure of the licensee to provide technical justification to defer the preventative maintenance of the six inch SW header was a PD. Using IMC 0612, Appendix B, "Issue Screening," dated September 7, 2012, the inspectors determined that the PD was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone, and it adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using IMC 0609.04, "Initial Characterization of Findings," Table 2, dated June 19, 2012, the finding was determined to affect the Mitigating Systems Cornerstone. The inspectors screened the finding using IMC 0609, Appendix A, "SDP for Findings at-Power," dated June 19, 2012, and determined that it screened as Green because the deficiency did not affect the design or qualification of the charging pump service water pump system and it did not represent a loss of system safety function. This finding has a cross-cutting aspect in work management aspect of the human performance area, H.5, because the licensee did not implement a process of planning, controlling, and executing work activities such that nuclear safety is the overriding priority. Specifically, ER-AA-102, "Operability Determination," Revision 15 was not followed to ensure the management of risk commensurate to the work and the need for coordination with different groups was obtained. (Section 40A2)

Inspection Report# : [2015004](#) (*pdf*)

Significance: G Sep 30, 2015

Identified By: NRC

Item Type: FIN Finding

Charging Pump Cubicle Floor Drain Backflow Preventer Failures during Unit 1 Safeguards Building Flooding

A self-revealing, Green finding was identified because the instructions section of the procedure used to test floor drain back flow preventers (BFPs) did not include the instructions necessary to successfully fulfill the purpose of the procedure. A lack of testing methodology instructions allowed BFPs to be installed in the Unit 1 and Unit 2 charging (CH) pump cubicle floor drains that would not prevent backflow into the cubicles during low flow conditions. This was discovered when the Unit 1 and 2 CH pump cubicles filled with approximately two inches of water during the Unit 1 Safeguards building basement flooding event on May 20, 2015. This issue was documented in the licensee's corrective action program (CAP) as condition reports (CRs) 580231 through 242.

The inspectors concluded that the failure of the licensee to have the instructions necessary to successfully fulfill the purpose of 0-MPM-1900-02, "Flood Protection Floor Drain Back Water Stop Valve Replacement" as required by Dominion procedure SPAP-0504, "Technical Procedure Writers Guide," and to correctly test the CH pump cubicle floor drain BFPs to prove functionality, was a performance deficiency (PD). Specifically, 0-MPM-1900-2 did not have instructions on the flow rate to fill the test stand and to observe that the BFP seats at a specified flow rate. Using IMC 0612, Appendix B, Issue Screening, dated September 7, 2012, the inspectors determined that the performance deficiency was more than minor because it was associated with the procedural quality attribute of the Mitigating

Systems Cornerstone, and it adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the lack of complete testing instructions for BFPs allowed BFPs to be installed in the CH pump cubicle floor drains that would not seal during all flooding scenarios; and once cocked to the side during low flow, then had the potential to pass much higher flow rates into the CH pump cubicles. Using IMC 0609.04, "Initial Characterization of Findings," Table 2, dated June 19, 2012, the finding was determined to affect the Mitigating Systems Cornerstone. The inspectors screened the finding using Manual Chapter 0609, Appendix A, "Significance Determination Process (SDP) for Findings at-Power," dated June 19, 2012, and determined that it screened as Green because the deficiency involved the degradation of equipment specifically designed to mitigate a flooding initiating event, but did not involve the total loss of any safety function. This finding has a cross-cutting aspect in the documentation aspect of the human performance area, H.7, because the licensee did not have an adequate test procedure to ensure that the floor drain BFPs would seal during low flow backflow conditions. (Section 1R12)

Inspection Report# : [2015003](#) (pdf)

Significance:  Sep 30, 2015

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Failure to Follow Procedure during Maintenance Results in Service Water Header Inoperability

A self-revealing, Green NCV of Technical Specifications (TS) 6.4.D was identified for failure to follow procedure WM-AA-101, "Work Order Planning," Revision 1. Specifically, the licensee inappropriately revised a work order which resulted in the actuator and hand wheel assembly on 1-SW-495, the 1D Service Water (SW) header inlet isolation valve, being rotated incorrectly. The incorrect rotation resulted in the 1D SW header being inoperable from November 19, 2013, the time the 1D SW header was placed in service following 1-SW-495 replacement, until the issue was corrected on April 11, 2014. This issue was documented in the licensee's CAP as CR 544361.

The inspectors determined that the failure to follow procedure WM-AA-101, "Work Order Planning," Revision 1, was a performance deficiency that was within the licensee's ability to foresee and correct and should have been prevented. The inspectors determined that the finding was more than minor because it was associated with the human performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the rotation of the actuator and hand wheel assembly of 1-SW-495 resulted in the inoperability of the 1D SW header from November 19, 2013 until April 11, 2014. Using IMC 0609.04, Initial Characterization of Findings, Table 2, dated June 19, 2012, and IMC 0609 Appendix A, "SDP for Findings at-Power," dated June 19, 2012, the inspectors determined that a detailed risk evaluation was required because the finding represented an actual loss of system function for greater than the TS allowed outage time for both the main control room (MCR) air conditioning system and the charging SW system during the two periods where only one SW header was operable. The finding had a cross-cutting aspect in human performance, work management, H.5, because the organization did not appropriately control or implement the maintenance activity associated with 1-SW-495 and also did not identify the need for coordination with other groups when the scope of the planned work was changed. (Section 4OA3)

Inspection Report# : [2015003](#) (pdf)

Significance:  Sep 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Verify Adequacy of Class 1E 125VDC Branch Circuit Breaker Design

The team identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for

the licensee's failure to verify or check the adequacy of design of the Class 1E 125 volt direct current (VDC) molded case circuit breakers (MCCBs). The licensee entered the issue into their CAP as CRs 559872 and 59875 and performed an immediate determination of operability, which determined the Class 1E 125VDC switchgear to be operable.

The licensee's failure to assure the quality levels of MCCBs through the specification of requirements known to promote high quality, such as requirements for design, for the de-rating of components, for manufacturing, quality control, inspection, calibration, and test, as specified by IEEE 279, Section 4.3, was a performance deficiency. The performance deficiency was determined to be more than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to adequately assess the electrical rating of electrical components could prevent the Class 1E 125VDC circuits from performing their safety function. The team determined the finding to be of very low safety significance (Green) because the finding was a deficiency affecting the design or qualification of a mitigating structure, system, or component, which maintained its operability or functionality. The team determined that no cross-cutting aspect was applicable because the finding was not indicative of current licensee performance. (Section 40A5)

Inspection Report# : [2015003](#) (*pdf*)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : August 29, 2016